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# MONTANA WATER QUALITY BIBLIOGRAPHY

1974 - Summer, 1977

By

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For

Water Quality Bureau

Environmental Sciences Division

Montana Department of Health and Environmental Sciences

Helena

1977

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# INTRODUCTION

This work updates information about water quality in Montana to mid-1977. It is an extension complementary to the Montana Water Quality Bibliography issued by the Water Quality Bureau in 1974. The citations included in both bibliographies deal with at least one of three major water quality characteristics: chemical, physical, (including hydrologic and erosional aspects) and biological. Some administrative citations are included also.

Much effort has been devoted to the compilation of this supplement. Many individuals have contributed and deserve thanks. Particularly valuable assistance has been given by Bill Tomlinson of the Environmental Studies Library at the University of Montana and Loren Bahls of the Water Quality Bureau.

John J. Donahue, Jr.
Assistant Professor
University of Montana

Missoula
Autumn, 1977

## ORGANIZATION AND USE

This supplemental bibliography is divided into three chapters. The first refers to work generated by graduate students at universities located mainly in Montana. The second chapter deals with journal articles, books, proceedings of symposia, and other scholarly efforts. The third chapter involves governmental and university publications.

An entry number appears before each reference. It is followed by a holder abbreviation which indicates the library or organization where the reference is available. Explanations of the holder abbreviations are provided on page iii.

Terms referring to aspects of water quality and geographical location accompany each reference. These terms suggest the relative range of information addressed by the reference. They do not represent all of the pertinent information contained in each.

The entry number is used to index the references according to topical subjects and, where possible, geographic location. The geographic location is usually identified by drainage basin. Minor drainage basins, keyed to an alphanumeric code, are designated by the map on page 52.

## REFERENCE HOLDER DESIGNATIONS

| | |
|---|---|
| NRC | Montana State Department of Natural Resources and Conservation.<br>Helena, Montana. |
| MG | Montana Bureau of Mines and Geology.<br>Butte, Montana. |
| MSL | Montana State Library.<br>Helena, Montana. |
| MSU | Montana State University Library.<br>Bozeman, Montana. |
| MT | Montana College of Mineral Science and Technology Library.<br>Butte, Montana. |
| SDSMT | South Dakota School of Mines and Technology.<br>Rapid City, South Dakota. |
| UMT | University of Montana Library.<br>Missoula, Montana. |
| UMT EVST | University of Montana, Environmental Studies Library.<br>Missoula, Montana. |
| USFS | United States Forest Service.<br>Missoula, Montana. |
| USGS | United States Geological Survey.<br>Helena, Montana. |
| UU | University of Utah.<br>Salt Lake City, Utah. |
| UW | University of Wyoming.<br>Laramie, Wyoming. |
| WQB | Water Quality Bureau, Montana State Department of Health and Environmental Sciences.<br>Helena, Montana. |

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# Chapter 1

## ACADEMIC STUDIES

Entry Number

1:MSU Adamsen, F. J. 1974. "Phosphorous, Sediment and Water Interactions in the Gallatin River of Southwestern Montana." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Gallatin River (41H); Suspended Solids; Sediment; Sewage Effluents; Runoff; Land Use; Agriculture; Bicarbonates; Calcium; Chlorides; Electrical conductance; Magnesium; Phosphorous; Potassium; Sodium; Sulfates; Turbidity

2:MSU Arnold, F. B. 1976. "Soil Water and Solute Movement in Montana Strip Mine Spoils." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Yellowstone River (42KJ); Soil Water Movement; Leaching; Coal Mines; Ammonia; Calcium; Magnesium; Nitrates; Potassium; Sodium

3:UMT Bateridge, T. E. 1974. "Effects of Clearcutting on Water Discharge and Nutrient Loss, Bitterroot National Forest, Montana." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Bitterroot River (76H); Calcium and Magnesium; Runoff; Nutrient Soil-Water-Plant relationship; Clear-cutting; Chlorides; Electrical conductance; Nitrates; pH; Potassium; Sodium; Water temperature

4:UMT Berg, R. K. 1974. "Limnology of Clark Canyon Reservoir, Montana." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Clark Canyon Reservoir; Beaverhead River (41A); Plankton; Productivity; Limnology; Alkalinity; Ammonia; Dissolved Oxygen; Electrical conductance; Hardness; Nitrites; pH; Phosphorous; Turbidity; Water temperature

5:MSU Bissonnette, G. K. 1974. "Recovery Characteristics of Bacteria Injured in the Natural Aquatic Environment." Unpublished Ph.D. thesis, Montana State University (Bozeman). (cont. p. 2)

Entry Number

5:MSU (cont.)

Terms: Gallatin River (41H); Membrane Filter Chamber Technique; Laboratory Test; Bacteria, Bioindicators; Streptococci; Coliforms; Wastewater Treatment; Water Temperature; pH; Electrical Conductance; Hardness; Calcium; Magnesium; Sodium, Potassium; Alkalinity; Sulphates; Chlorides; Phosphorous; Nitrate; Nitrites; Ammonia; Carbon

6:SDSMT

Carda, D. 1975. "A Study of Radium Content of the Ground Waters in Western South Dakota with Emphasis on the Madison (Pahasapa) Limestone." Unpublished Ph. D. thesis, South Dakota School of Mines and Technology.

Terms: South Dakota; Radioisotopes; Gammarays; Ground water; Water Temperature

7:MSU

Chadwick, J. W. 1974. "The Effects of Iron on the Macroinvertebrates of Soda Butte Creek." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Soda Butte Creek; Clarks Fork (43D); Iron & Sulphate; Mine Wastewater; Invertebrates; Dissolved Oxygen; pH; Water Temperature

8:UMT

Custer, S. G. 1976. "Shallow Ground-Water Salinization in Dry-Land Farm Areas of Montana." Unpublished Ph.D thesis, University of Montana (Missoula).

Terms: Yellowstone River (43Q); Saline Water; Ground water; Seepage; Soil Moisture; Agriculture; Ammonia; Bicarbonates; Calcium; Carbonates; Chlorides; Electrical Conductance; Magnesium; Nitrogen; pH; Sodium; Sodium Absorption; Sulphates

9:UMT

Darling, J. E. 1976. "Factors Affecting the Trout Fishery of Big Sky Lake, Montana." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Big Sky Lake; Clearwater River (76F); Insects; Annelids; Mollusks; Crustaceans; Trout; Bicarbonates; Coliforms; Dissolved Oxygen; Hardness; Nitrates; pH; Phosphorous; Turbidity; Water Temperature

10:MSU

Dollhopf, D. J. 1975. "Soil and Water Relationships with Gypsum and Land Disposed Feedlot Wastes." Unpublished Ph.D. thesis, Montana State University (Bozeman).

Terms: Yellowstone River (43Q); Suspended Solids; Runoff; Leaching; Groundwater; Water Pollution; Feedlot Wastes; Calcium; Carbon; Electrical Conductance; Magnesium; Nitrates; pH; Phosphorous; Sodium; Turbidity

Entry Number

11:UMT Driear, R. E. 1974. "A Comparative Study of the Aquatic Insect Population of Rock Creek, Montana, and Its Major Tributaries." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Rock Creek (76E); Stoneflies; Mayflies; Trichoptera; Diptera; Coleoptera; Stream Classification; Water Temperature

12:MSU Evans, T. M. 1975. "The Limulus Lysate Assay as a Rapid and Sensitive Test of Bacterial Water Quality." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Laboratory Test; Water Analysis; Endotoxin Content; Bacteria; Limulus Lysate

13:MSU Foris, W. J. 1976. "A Comparison of Diatoms on Horizontal and Vertical Substrates in Georgetown Lake, Montana." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Georgetown Lake; Flint Creek (76GJ); Diatoms; Alkalinity; Ammonia; Calcium; Chlorides; Dissolved Oxygen; Electrical Conductance; Fluorides; Iron; Magnesium; Nitrates; Nitrites; pH; Potassium; Silica; Sodium; Sulphates; Water Temperature

14:UMT Gagermeier, G. L. 1976. "A Bacteriological Investigation of the Haskell Creek Drainage." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Flathead River (76LJ); Water Pollution; Snow Cover; Coliforms;

15:MSU Garrison, P. J. 1976. "The Role of the Bottom Sediments in the Eutrophication of Georgetown Lake, Montana." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Georgetown Lake; Flint Creek (76GJ); Lake Beds; Eutrophication; Carbon; Dissolved Oxygen; Electrical Conductance; Iron; Nitrates; Phosphorous; Silica

16:UMT Gore, J. A. 1976. "In-Stream Flow Requirements of Benthic Macro-Invertebrates in a Prairie River." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Tongue River; River Current; Benthos; Mayflies, Stoneflies; Odonata; Trichoptera; Hemiptera; Coleoptera; Mollusks; Streamflow; Low Flow; Streamflow Depletion; Water Temperature

Entry Number

17:MSU Gorges, M. W. 1976. "The Benthic Macro-Invertebrates of the Musselshell River, Montana." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Musselshell River; Benthos; Mayflies; Trichoptera; Diptera; Alkalinity; Calcium; Chlorides; Dissolved Oxygen; Electrical Conductance; Hardness; pH; Sulphates; Turbidity; Water Temperature

18:UMT Grimestad, G. R. 1976. "Hyrology of Giant Springs, Great Falls, Montana." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Missouri River (41Q); Groundwater; Carbon; Springs; Alkalinity; Bicarbonates; Calcium; Chlorides; Fluorides; Magnesium; Nitrates; pH; Potassium; Sodium; Sulphates; Water Temperature

19:MSU Haigh, J. G. 1976. "Soil Water, Nitrate, and Site Characteristics of Montana Foothills Range." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Gallatin River (41H); Madison River (41F); Soil Moisture; Soil; Nitrates

20:UMT Howe, P. J. 1974. "A Study of the Community Gradient of the Benthic Insects of Wilbur Creek in Glacier National Park, Montana." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Benthos; Mayflies; Trichoptera; Stoneflies; Diatoms; Alkalinity; Carbon Dioxide; Dissolved Oxygen; Water Temperature; Wilbur Creek; St. Mary River (40T)

21:UMT Hunter, C. J. 1974. "Factors Affecting the Production of Tally Lake." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Tally Lake; Flathead River (76J); Water Pollution; Periphyton; Productivity; Alkalinity; Ammonia; Coliforms; Dissolved Oxygen; Nitrates; pH; Phosphorous; Silica; Water Temperature

22:MSU Kaczmarek, M. B. 1974. "Geothermometry of Selected Montana Hot Spring Waters." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Hot Springs; Calcium; Chlorides; Magnesium; Potassium; Silica; Sodium; Water Temperature

Entry Number

23:MSU Karp, R. W. 1976. "A Model for Predicting Ion Concentrations in the Yellowstone River, Between Billings and Miles City, Montana: A Management Tool." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Yellowstone River; Streamflow; Ions; Bicarbonates; Calcium; Carbonates; Chlorides; Electrical Conductance; Magnesium; Potassium; Sodium; Sulphates

24:UMT Kikkert, D. W. 1975. "Winter Water Quality of the Big Mountain Ski Area, Whitefish, Montana." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Flathead River (76LJ); Streamflow, Water Pollution; Snow Cover; Alkalinity; Ammonia; Electrical conductance; hardness; Nitrates; Nitrites; pH; Phosphorous; Potassium; Sodium; Sulphates; Turbidity; Water Temperature

25:UMT Koelsch, P. K. 1975. "Species Diversity of Stream Insects as a Measure of Ecological Stress, Post Creek, Lake County, Montana." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Post Creek; Flathead River (76L); Diversity; Streamflow; Stoneflies; Mayflies; Coleoptera; Diptera; Odonata; Megaloptera; Alkalinity; Dissolved Oxygen; Hardness; Turbidity; Water Temperature

26:UW Miller, W. R. 1974. "Chemical Weathering and Related Controls on Surface Water Chemistry in the Absaroka Mountains, Wyoming." Unpublished Ph.D. thesis, University of Wyoming.

Terms: Wyoming; Weathering; Montmorillonite; Runoff; Water Quality; Variability; Potassium; Silica

27:UMT Oswood, M. W. 1976. "Ecological Studies of a Lake Outlet." Unpublished Ph.D. thesis, University of Montana (Missoula).

Terms: Clearwater River (76F); Trichoptera; Diptera; Mayflies; Spatial Distribution Along Stream; Periphyton; Nutrients; Coliforms

28:MSU Rada, R. G. 1974. "An Investigation into the Trophic Status of Canyon Ferry Reservoir, Montana." Unpublished Ph.D. thesis, Montana State University (Bozeman).

Terms: Canyon Ferry Reservoir; Missouri River (41I); Plankton; Water Balance; Inflow-Outflow; Trophic Levels; Ammonia; Bicarbonates; Calcium; Chlorides; Electrical Conductance; Fluorides; Magnesium; Nitrates; pH; Potassium; Sodium; Sulphates; Turbidity; Water Temperature

Entry Number

29:UMT Schwehr, D. J. 1976. "Distribution and Diversity of Aquatic Macro-Invertebrates of the Middle Yellowstone River." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Yellowstone River; Aquatic Animals; Invertebrates; Mayflies; Trichoptera; Diptera; Stoneflies; Channel Morphometry; Water Temperature

30:UMT Senger, J. A. 1975. "A Compilation and Synthesis of Existing Water Resource Information on the Bitterroot Drainage, Montana." Unpublished Master's thesis, University of Montana (Missoula).

Terms: Bitterroot River (76H); Streamflow; Dissolved Oxygen; Dissolved Solids; Hardness; Water Temperature

Note: A Source of Various Types of Bibliographic Information. Some Sub-Basins are Characterized by Water Quality Information.

31:MSU Stuart, S. A. 1975. "Microbial Studies of a High Alpine Water Supply Used for Recreation." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Wyoming; Bioindicators; Algae; Alpine; Coliforms

32:UU Stanford, J. A. 1975. "Ecological Studies of Plecoptera in the Upper Flathead and Tobacco Rivers, Montana." Unpublished Ph.D. thesis, University of Utah.

Terms: Kootenai River (76D); Flathead River (76LJ); Stoneflies; Periphyton; Water Temperature

33:MSU Vandenberg, R. J. 1974. "Effects of Acid Mine Pollution on the Benthic Macro-Invertebrates of the Dry Fork of Belt Creek Drainage." Unpublished Master's thesis, Montana State University (Bozeman).

Terms: Missouri River (41Q); Streamflow; Acid Mine Water; Benthos; Invertebrates; Alkalinity; Calcium; Copper; Electrical Conductance; Hardness; Iron; Magnesium; Manganese; pH; Potassium; Sodium; Sulphates; Water Temperature; Zinc

34:UMT EVST Wunder, L. 1974. "Water Use, Surface Water and Water Rights on the Flathead Indian Reservation, Montana: A Review." Unpublished Master's Thesis Manuscript, University of Montana (Missoula).

Terms: Flathead River; Water Pollution; Municipal Water; Coliforms; Turbidity

Chapter 2

ARTICLES

Entry Number

35:UMT Bahls, P. A. and Bahls, L. L. 1974. "Trophic Response to a Hatchery Effluent." Proceedings of the Montana Academy of Sciences. 34: 5-11.

Terms: Gallatin River (41H); Bioindicators; Periphyton; Water Pollution; Autotrophic Index; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Hardness; Nitrates; Nitrites; Turbidity; Water Temperature

36:UMT Bailey, A. K. 1976. "Concentration of Heavy Metals in a Hydroelectric Impoundment." Proceedings of the Montana Academy of Sciences. 36: 165-170.

Terms: Clark Fork River (76J); Sedimentation; Toxic Waste Disposal; Heavy Metals; Copper; Iron; Manganese; Zinc

37:MSU Bissonnette, G. K. and others. 1977. "Evaluation of Recovery Methods to Detect Coliforms in Water." Applied and Environmental Microbiology. 33: 590-595.

Terms: Gallatin River (41H); Membrane Filter Chamber Technique; Wastewater Treatment; Coliforms; Laboratory Test; Bacteria; Bioindicators; Streptococci

38:MSU Botz, M. K. 1976. "Salinity in Hydrological Systems in Montana." Regional Saline Seep Control Symposium. Montana State University (Bozeman) Bulletin 1132. pp. 91-98.

Terms: Water Pollution; Saline Water; Groundwater; Municipal Water

Notes: General Overview.

39:UMT Campbell, N. 1977. "Geohydrology of the Lost Creek Cave System, Park County, Montana." Northwest Science. 51: 1-12.

Terms: Boulder River (43BJ); Hydrogeology; Caves; Bicarbonates; Calcium; Hardness; Magnesium; pH; Water Temperature

Entry Number

40:UMT Chadwick, R. A., M. J. Galloway, and G. J. Weinheimer. 1977. "Resistivity and Soil Temperature Studies at Selected Montana Hot Springs." Northwest Geology. 6-2: 60-66

Terms; Hot Springs; Water Temperature

41:UMT Custer, S. G. 1976. "Nitrate in Groundwater--A Search for Sources Near Rapelje, Montana." Northwest Geology. 5: 25-33.

Terms: Yellowstone River (43Q); Agriculture; Groundwater; Water Pollution Sources; Ammonia; Nitrates; Nitrogen

42:MSU Custer, S. G. 1976. "The Nitrate Problem in Areas of Saline Seep--A Case Study." Regional Saline Seep Control Symposium. Montana State University (Bozeman) Bulletin 1132.

Terms: Groundwater; Water Pollution; Saline Water; Seepage; Nitrates

43:UMT Halvorson, A. D. and A. L. Black. 1974. "Saline Seep Development in Dryland Soils of Northeastern Montana." Journal of Soil and Water Conservation. 29:77-80.

Terms: Yellowstone River (42M); Glacial Deposits; Soil Water; Deep Percolation; Saline Water; Seepage; Bicarbonates; Calcium; Carbonates; Chlorides; Electrical Conductance; Magnesium; Nitrates; pH; Sodium; Sodium Absorption; Sulphates

44:UMT EVST Johnston, R. S., R. W. Brown, and J. Cravens. 1975. "Acid Mine Rehabilitation Problems at High Elevations." Watershed Management. Proceedings of a Symposium at Utah State University (Logan). pp. 66-79.

Terms: Revegetation; Soil-Water-Plant Relationships Water Quality; Alpine-Subalpine; Ecology; Acid Mine Water; Aluminum; Copper; Electrical Conductance; Iron; pH; Sulphates; Zinc

Entry Number

45:MSU Keys, J. W. III, J. F. Ruff, and M. M. Skinner. 1975. "A Remote Sensing Study of Sediment in the Clarks Fork, Yellowstone River." Proceedings of the Fort Union Coal Field Symposium. 2: 156-166.

Terms: Clarks Fork (43D); Streamflow; Suspended Solids; Water Surface Temperature; Water Pollution; Sediment Sources; Remote Sensing; Turbidity

46:UMT Klages, M. G. and Y. P. Hsieh. 1975. "Suspended Solids Carried by the Gallatin River of Southwestern Montana: II. Using Mineralogy for Inferring Sources." Journal of Environmental Quality. 4:68-72.

Terms: Gallatin River (41H); Sediment Production; Provenance; Erosion; Suspended Solids

47:UMT Luedtke, R. J., R. C. Russo, and R. V. Thurston. 1976. "East Gallatin River, Montana: Macroinvertebrate Distribution and Water Analysis 1973-1974." Proceedings of the Montana Academy of Sciences. 36: 21-36.

Terms: Gallatin River (41H); Bioassay; Bioindicators; Invertebrates; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Copper; Dissolved Oxygen; Electrical Conductance; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature; Zinc

48:UMT McFeters, G. A. and Others. 1974. "Comparative Survival of Indicator Bacteria and Enteric Pathogens in Well Water." Applied and Environmental Microbiology.

Terms: Gallatin River (41H); Bacteria; Bioindicators; Coliforms

49:UMT Miller, W. R. and Drever, J. I. 1977. "Water Chemistry of a Stream Following a Storm, Absaroka Mountains, Wyoming." Geologic Society of America Bulletin. 88: 286-290.

Terms: Wyoming; Runoff, Water Quality; Bicarbonates; Calcium; Chlorides; Magnesium; Potassium; Sodium; Sulphates

50:MSU Newell, R. L. 1975. "Longitudinal Changes in the Macroinvertebrate Fauna of the Yellowstone River." Proceedings of the Fort Union Coal Field Symposium. 2: 199-211.

Terms: Yellowstone River; Invertebrates; Diversity; Stoneflies; Caddisflies; Mayflies; Diptera

Entry Number

51:UMT Olson, G., S. Turbak, and G. McFeters. 1976. "Bioassays Related to the Effects of Coal Strip Mining and Energy Conversion on the Aquatic Microflora." Proceedings of the Symposium on Terrestrial and Aquatic Ecological Studies of the Northwest.

Terms: Tongue River (42B); Armells Creek; Algae; Bioassay; Coal Mines

52:UMT Potter, D. S. and J. A. Stanford. 1975. "Influences on the Plankton Communities of Oligotrophic Flathead Lake." International Association of Theoretical and Applied Limnology.

Terms: Flathead Lake (76LJ); Sediment Effects; Plankton; Diatoms; Chrysophyta; Alkalinity; Carbon Dioxide; Cobalt; Copper; Dissolved Oxygen; Hardness; Iron; Manganese; Nitrates; pH; Phosphorous; Zinc

53:MSU Rahn, P. H. 1975. "Ground Water in Coal Strip-Mine Spoils, Powder River Basin." Proceedings of the Fort Union Coal Field Symposium. 3:348-361.

Terms: Powder River (42J); Infiltration; Permeability; Coal Mines; Spoil Banks; Groundwater; Suspended Solids; Alkalinity; Aluminum; Antimony; Arsenic; Boron; Bromine; Cadmium; Calcium; Chlorides; Chromium; Cobalt; Dissolved Solids; Fluorides; Germanium; Hardness; Iron; Iodide; Lead; Lithium; Magnesium; Manganese; Mercury; Molybdenum; Nitrogen; pH; Phosphorous; Potassium; Selenium; Silica; Silver; Sodium; Strontium; Sulphates; Turbidity; Uranium; Vanadium; Zinc

54:UMT Ruff, J. F., J. W. Keys III, and M. M. Skinner. 1974. "Clarks Fork Yellowstone River Remote Sensing Study." Journal of the Hydraulics Division, American Society of Civil Engineers. 100: 719-729

Terms: Clarks Fork River (43D); Suspended Solids; Water Surface Temperature; Water Pollution; Sediment Sources; Remote Sensing; Turbidity

Entry Number

55:MSU Soltero, R. A. and J. C. Wright. 1975. "Primary Production Studies on a New Reservoir; Bighorn Lake-Yellowtail Dam, Montana, U.S.A." Freshwater Biology 5: 407-421.

Terms: Bighorn Lake-Yellowtail Dam; Bighorn River (43P); Plankton; Algae; Productivity; Chlorophyll; Light Penetration; Ammonia; Copper; Iron; Manganese; Nitrates; Nitrites; pH; Phosphorous; Zinc

56:WQB Sonstelie, L. C. 1974. A Study of the Water Quality of Twelve Lakes in the Flathead Drainage Basin. APPENDICES.

Terms: Flathead River; Light Penetration; Plankton; Chlorophyta; Cyanophyta; Chrysophyta; Pyrrhophyta; Lakes; Bicarbonates; Carbon Dioxide; Carbonates; Dissolved Oxygen; Electrical Conductance; Nitrates; pH; Phosphorous; Water Temperature

57:UMT Stanford, J. A. and A. R. Gaufin. 1974. "Hyporheic Communities of Two Montana Rivers." Science. 185:700-702.

Terms: Kootenai River (76D); Flathead River (76LJ); Benthos; Stoneflies; Nymphs; Stream Gravel Environment

58:UMT Stark, N.M. 1977. "Fire and Nutrient Cycling in a Douglas Fir/Larch Forest." Ecology. 58: 16-30.

Terms: Blackfoot River (76F); Soil Profiles; Soil Water; Nutrients; Forest; Calcium; Copper; Fluorides; Iron; Magnesium; Manganese; Nitrates; Phosphorous; Potassium; Sodium; Zinc

59:UMT Stuart, S. A. and Others. 1976. "Aquatic Indicator Bacteria in the High Alpine Zone." Applied and Environmental Microbiology. 31: 163-167.

Terms: Wyoming; Streptococcus; Bioindicators; Coliforms; Electrical Conductance; pH; Water Temperature

Notes: May apply to many mountainous areas in Montana.

60:UMT Thurston, R. V., R. J. Luedtke, and R. C. Russo. 1976. "Upper Yellowstone River, Montana: Macroinvertebrate Distribution and Water Analysis 1973-1974." Proceedings of the Montana Academy of Sciences. 36: 37-49.

Terms: Upper Yellowstone River; Bioassay; Bioindicators; Invertebrates; Spatial Distribution; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Copper; Dissolved Oxygen; Electrical Conductance; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature; Zinc

Entry Number

61:MSU VanVoast, W. A., R. B. Hedges, and G. K. Pagenkopf. 1975. "Hydrologic Impacts of Coal Mine Effluents and Spoils Leachates." Proceedings of the Fort Union Coal Field Symposium. 3: 289-303.

Terms: Tongue River (42B); Groundwater; Mine Water; Water Pollution; Alkalis; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Solids; Electrical Conductance; Fluorides; Iron; Magnesium; Manganese; Nitrates; pH; Silica; Sodium; Sodium Absorption; Sulphates

Notes: Water Quality Changes

62:MSU Zemko, W. A. and P. A. Buscemi. 1974. "Symap Computer Projections of Summer Zooplankton Populations in Van Lake, Montana." International Association of Theoretical and Applied Limnology. 19: 850-855.

Terms: Van Lake; Swan River (76K); Copepods; Crustaceans; Water Temperature

Chapter 3

# GOVERNMENT PUBLICATIONS

Entry Number

63:UMT Flathead Drainage Areawide Planning Organization. 1977. Lakes and Streams Water Quality Study, Flathead Lake, Montana.

Terms: Flathead Lake; Flathead River (76LJ); Suspended Solids; Chemical Oxygen Demand; Phenols; Lakes; Alkalinity; Calcium; Chlorides; Coliforms; Dissolved Oxygen; Electrical Conductance; Nitrates; Phosphorous; Potassium; Sodium; Water Temperature

64:UMT Flathead Drainage Areawide Planning Organization. 1977. Forest Water Quality Within the Flathead Drainage Basin. by W. M. Weber.

Terms: Flathead River; Streamflow; Suspended Sediment; Bed Load; Forests

65:UMT Hoerner-Waldorf Corporation. 1974. Water Quality Control for Hoerner-Waldorf Corporation Mill Expansion, Missoula, Montana.

Terms: Clark Fork River (76M); Water Supply; Phenols; Groundwater; Sodium & Potassium; Biological Oxygen Demand; Water Color; Tannin; Chemical Oxygen Demand; Bicarbonates; Carbonates; Chlorides; Coliforms; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Magnesium; Nitrates; pH; Sulphates; Water Temperature

66:WQB Middle Yellowstone Areawide Planning Organization. 1977. Agricultural Non-Point Source Water Quality Monitoring and Sampling. By G. L. Kaiser, D. A. Klarich.

Terms: Yellowstone River; Invertebrates; Periphyton; Diatoms; Algae; Diversity; Suspended Solids; Streamflow; Chlorophyll; Diptera; Tricoptera; Mayflies; Stoneflies; Amphipoda; Hydracarina; Coleoptera; Odonata; Oligochaeta; Gastropoda; Coliforms; Electrical Conductance; Nitrates; Phosphorous; Turbidity; Water Temperature

Entry
Number

67:WQB Mid-Yellowstone Areawide Planning Organization. 1976. Other Nonpoint Source Assessment, Mining - Silviculture - Construction. Task 1. Data Collection and Problem Identification and Assessment. (Draft).

Terms: Yellowstone River; Water Pollution; Sediment; Mines; Forest Management; Construction Practices; Aluminum; Arsenic; Cadmium; Chromium; Copper; Dissolved Solids; Electrical Conductance; Iron; Lead Magnesium Manganese; Nickel; Nitrates; pH; Silica; Sulphates; Turbidity; Water Temperature; Zinc

68:WQB Mid-Yellowstone Areawide Planning Organization. 1977. Water Quality Study for Middle Yellowstone Areawide Wastewater Management Program. Task 4. General Short Term Subsurface Water Monitoring Program.

Terms: Yellowstone River; Groundwater; Piezometric Levels; Groundwater Pollution; Water Wells; Chlorides; Chromium; Coliforms; Electrical Conductance; Nitrates; pH; Water Temperature

69:MT Montana. Bureau of Mines and Geology. 1975. Hydrogeologic Aspects of Existing and Proposed Strip Coal Mines Near Decker, Southeastern Montana. Bulletin 97 by W. A. Van Voast and R. B. Hedges.

Terms: Tongue River (42B); Coal Mines; Piezometric Levels; Groundwater Quality; Hydrogeology; Alkalinity; Alkalis; Bicarbonates; Calcium; Chlorides; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Magnesium; Manganese; Nitrates; pH; Potassium; Silica; Sodium; Sodium Absorption; Sulphates; Water Temperature

70:MT Montana. Bureau of Mines and Geology. 1975. A Study of the Influence of Seismic Shotholes on Ground Water and Aquifers in Eastern Montana. Special Publication 67 by E. W. Bond.

Terms: Eastern Montana; Groundwater; Aquifers; Seismic Investigations; Alkalinity; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Magnesium; Manganese; Nitrates; pH; Potassium; Silica; Sodium; Sodium Absorption; Sulphates; Water Temperature

Entry Number

71:MT Montana. Bureau of Mines and Geology. 1976. Ground Water of the Fort Union Coal Region, Montana. Preliminary Report to the 1977 Legislature by R. N. Bergantino and others.

Terms: Eastern Montana; Groundwater

Notes: General Summary of Ground Water Availability and Quality.

72:MG Montana. Bureau of Mines and Geology. 1976. Acid Mine Drainage Control--Feasibility Study, Cooke City, Montana; Final Report. Open-File Report MBMG-23 by J. S. Sonderegger, J. J. Wallace, Jr., and G. L. Higgins, Jr.

Terms: Clarks Fork (43D); Streamflow; Groundwater; Piezometric Levels; Snow Quality; Acid Mine Water; Acidity; Alkalinity; Aluminum; Cadmium; Calcium; Chlorides; Copper; Electrical Conductance; Fluorides; Iron; Lead;Magnesium; Manganese; pH; Potassium; Silica; Sodium; Sulphates; Zinc

73:MG Montana. Bureau of Mines and Geology. 1976. Ground-Water Investigation of Columbia Gardens II Site. Open-File Report MBMG-22 by P. Norbeck and J. Sonderegger.

Terms: Clark Fork River (76G); Groundwater; Water Wells; Drawdown; Specific Capacity

74:MT Montana. Bureau of Mines and Geology. 1977. Geology and Water Resources of the North Part of the Judith Basin, Montana. Bulletin 101 by R. D. Feltis.

Terms: Judith River (41S); Streamflow; Water Wells; Groundwater; Alkalinity; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Magnesium; Manganese; pH; Potassium; Silica; Sodium; Sodium Absorption; Sulphates; Water Temperature

Entry
Number

75:MT Montana. Bureau of Mines and Geology. 1977. Hydrogeologic Conditions and Projections Related to Mining near Colstrip, Southeastern Montana. Bulletin 102 by W. A. Van Voast, R. B. Hedges, and J. J. McDermott.

Terms: Armells Creek; Yellowstone River (42KJ); Groundwater; Piezometric Levels; Hydrogeology; Coal Mines; Alkalinity; Aluminum; Antimony; Arsenic; Beryllium; Bicarbonates; Boron; Cadmium; Calcium; Carbonates; Chlorides; Chromium; Copper; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Lithium; Magnesium; Manganese; Mercury; Nickel; Nitrates; pH; Potassium;Selenium; Silica; Silver; Sodium; Sodium Absorption; Strontium; Sulphates; Tin; Water Temperature; Zinc

76:UMT EVST Montana. Environmental Quality Council. 1974. Environmental Impacts of Saline Seep in Montana, by Michael Harlow.

Terms: Eastern Montana; Groundwater Recharge; Overland Flow; Stock Ponds; Saline Water; Seepage; Aluminum; Bicarbonates; Cadmium; Calcium; Carbonates; Chlorides; Chromium; Cobalt; Copper; Dissolved Solids; Electrical Conductance; Iron; Lead; Lithium; Magnesium; Manganese; Nickel; Nitrates; pH; Phosphorous; Potassium; Silver; Sodium; Strontium; Sulphates; Zinc

77:UMT EVST Montana. Environmental Quality Council. 1974. A Review of Literature Pertaining to the Toxicity of Substances Present in Saline Seep. By W. Tomlinson.

Terms: Saline Water; Seepage Toxicity; Aquatic Animals; Aluminum; Bicarbonates; Calcium; Chlorides; Copper ; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Magnesium; Manganese; Nickel; Nitrates; Phosphorous; Potassium; Silica; Silver; Sodium; Sulphates; Zinc

78:UMT EVST Montana. Environmental Quality Council. 1976. Microflora of the Yellowstone, II. Perturbations Through Billings. by L. L. Bahls.

Terms: Yellowstone River; Diversity; Algae; Diatoms; Nitrate & Nitrite; Ammonia; Nitrogen; Phosphorous

Entry Number

79:UMT EVST Montana. Environmental Quality Council. 1976. Microflora of the Yellowstone River III. The Non-Diatom Algae. by L. L. Bahls.

Terms: Yellowstone River; Periphyton; Plankton; Spatial Distribution along Stream; Algae; Frequency Distribution

80:UMT EVST Montana. State Department of Fish and Game. 1974. Microflora of the Yellowstone River I. Microflora in the Plankton at the Confluence of the Bighorn River. By L. L. Bahls.

Terms: Yellowstone River; Plankton; Diatoms; Algae; Chlorophyta; Chrysophyta; Cyanophyta; Rhodophyta

81:WQB Montana. State Department of Fish and Game. 1975. Biological Study, Acid-Mine Control--Feasibility Study, Cooke City, Montana. Final Report by K. Knudson and C. Estes.

Terms: Clarks Fork (43D); Water Pollution; Heavy Metals; Toxicity; Acid Mine Water; Sediment; Aluminum; Copper; Iron

82:MSU Montana. State Department of Fish and Game. 1975. Upper Blackfoot River Study. A Pre-Mining Inventory of Aquatic and Wildlife Resources. by L. E. Spence.

Terms: Blackfoot River (76F); Mayflies; Stoneflies; Trichoptera; Diptera; Coleoptera; Mines; Streamflow; Sodium & Potassium; Biochemical Oxygen Demand; Alkalinity; Arsenic; Bicarbonates; Calcium; Carbonates; Chlorides; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Fluorides; Hardness; Iron; Lead; Magnesium; Nitrates; Sulphates; Turbidity; Water Temperature; Zinc

83:MSL Montana. State Department of Fish and Game. 1976. Water Quantity and Quality of the Sun River from Gibson Dam to Vaughn, 1973-1974. by W. J. Hill.

Terms: Sun River (41K); Streamflow; Diversion; Streamflow Depletion; Return Flow; Dissolved Solids; Silica; Turbidity; Water Temperature

84:WQB Montana. State Department of Fish and Game. 1976. Disappearance of the Trout Fishery from Silver Creek Downstream from Mill Ponds Containing High Concentrations of Heavy Metals and Cyanide. by K. Knudson and R. Swanson.

Terms: Benthos; Invertebrates; Bioassay; Trout; Toxic Chemicals; Cyanide; Heavy Metals; Water Pollution; Silver Creek; Missouri River (41I)

Entry
Number

85:WQB Montana. State Department of Fish and Game. 1976. Effects of Decreased Water Quantity and Increased Nutrient Additions on Algal Biomass Accumulation, and Subsequently, the Dissolved Oxygen Balance of the Yellowstone River. By K. Knudson and D. Swanson.

Terms: Yellowstone River; Algae; Bioassay; Diel Fluctuations of Dissolved Oxygen; Streamflow Depletion; Nutrients; Alkalinity; Electrical Conductance; Hardness; Phosphorous; Sodium

86:MSU Montana. State Department of Fish and Game. 1976. Yellowstone River Study: Final Report, by R. L. Newell.

Terms: Yellowstone River; Aquatic Animals; Bioindicators; Diversity; Ecology

87:WQB Montana. State Department of Health and Environmental Sciences. 1974. Montana Water Pollution Control Program Plan.

Terms: Water Qualtiy Control; Groundwater; Water Pollution Sources; Permits; Monitoring

88:UMT EVST Montana. State Department of Health and Environmental Sciences. 1974. Environmental Impact Statement for the Proposed Expansion of the Hoerner-Waldorf Pulp and Paper Mill at Missoula, Montana: Final.

Terms: Clark Fork River (76M); Groundwater; Groundwater Pollution; Water Color; Streamflow; Biochemical Oxygen Demand; Cyanide; Alkalinity; Aluminum; Ammonia; Arsenic; Barium; Beryllium; Bicarbonates; Boron; Cadmium; Calcium; Carbon; Chlorides; Chromium; Cobalt; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Iron; Lead; Magnesium; Manganese; Mercury; Molybdenum; Nickel; Nitrates; Nitrites pH; Phosphorous; Potassium; Selenium; Silica; Sodium; Strontium; Sulphates; Vanadium; Water Temperature; Zinc.

Entry Number

89:UMT Montana. State Department of Health and Environmental Sciences. 1974. Montana Water Quality Bibliography. By G. W. Burnett and M K. Botz.

Terms: Documentation; Information Retrieval; Publications; Technical Papers.

90:WQB Montana. State Department of Health and Environmental Sciences. 1975. Water Qualtiy in Montana.

Terms: Water Pollution Sources; Degraded Stream Reaches; Types of Degradation; Sediment; Dewatering; Salts; Nutrients; Acid Mine Water; Toxic Checmicals; Oil and Grease; Phenols; Water Color; Surveillance Program; Arsenic; Coliforms; Dissolved Oxygen; Fluorides; Water Temperature

91:WQB Montana. State Department of Health and Environmental Sciences. 1975. Montana Water Pollution Control Program for Fiscal Year 1976.

Terms: Water Quality Control; Groundwater; Water Pollution Sources; Permits; Monitoring

92:WQB Montana. State Department of Health and Environmental Sciences. 1975. Water Pollution, Gallatin County, Montana.

Terms: Gallatin River (41H); Sediment; Toxic Wastes; Coliforms; Turbidity

93:UMT EVST Montana. State Department of Health and Environmental Sciences. 1975. Pollution Detection with Diatoms: The Yellowstone River Between Laurel and Huntley. By L. L. Bahls and P. A. Bahls.

Terms: Yellowstone River (43Q); Benthos; Algae; Diatoms; Diversity; Spatial Distribution Along Stream

94:WQB Montana. State Department of Health and Environmental Sciences. 1975. Investigations of Salinity in Hydrological Systems in Montana. Technical Report 75-1. State Department of State Lands FLY75 Report. By J. Kaiser, P. Gorman, and M. K. Botz.

Terms: Eastern Montana; Saline Water; Groundwater; Seepage; Streamflow; Suspended Load; Spatial Distribution; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Solids; Electrical Conductance; Magnesium; Nitrates; pH; Potassium; Sodium; Sodium Absorption; Sulphates

Notes: Also listed under: Montana. State Department of State Lands. 1975.

Entry Number

95:WQB Montana. State Department of Health and Environmental Sciences. 1975. Logan Creek, Water Quality Study, Fiscal Year 1975 Report. Technical Report 75-2 by D. Nunnallee, G. Hughes, T. J. Hall.

Terms: Flathead River (76LJ); Benthos; Invertebrates; Algae; Plecoptera; Trichoptera; Diptera; Suspended Solids; Water Color; Streamflow; Alkalinity; Arsenic; Bicarbonates; Cadmium; Calcium; Chlorides; Coliforms; Copper; Dissolved Oxygen; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Magnesium; Manganese; Mercury; Nickel; Nitrogen; pH; Phosphorous; Sodium; Sodium Absorption; Sulphates; Turbidity; Water Temperature; Zinc

96:WQB Montana. State Department of Health and Environmental Sciences. 1976. Water Quality in Montana.

Terms: Water Pollution Sources; Degraded Stream Reaches; Types of Degradation; Sediment; Dewatering; Salts; Nutrients; Acid Mine Waters; Toxic Chemicals; Oil and Grease; Phenols; Water Color; Surveillance Program; Arsenic; Coliforms; Dissolved Oxygen; Fluorides; Water Temperature

97:WQB Montana. State Department of Health and Environmental Sciences. 1976. Application for Reservation of Flows--Yellowstone River.

Terms: Yellowstone River; Ionic Ratios; Water Pollution Sources; Salinity; Streamflow; Dissolved Solids; Hardness; Sodium Absorption; Water Temperature

98:UMT Montana. State Department of Health and Environmental Sciences. 1976. Montana Water Pollution Control Program Plan for Fiscal Year 1977.

Terms: Water Quality Control; Groundwater; Water Pollution Sources; Permits; Monitoring

Entry
Number

99:WQB Montana. State Department of Health and Environmental Sciences. 1976. Water Quality Inventory and Management Plan, Flathead Drainage Basin, Montana. By D. Nunnallee, M. K. Botz, and D. G. Willems.

Terms: Flathead River; Water Pollution Sources; Mines; Streamflow; Biochemical Oxygen Demand; Suspended Solids; Arsenic; Bicarbonates; Cadmium; Calcium; Carbonates; Chlorides; Coliforms; Copper Dissolved Oxygen; Electrical Conductance; Fluorides; Iron; Lead; Magnesium; Nitrates; pH; Phosphorous; Potassium; Sodium; Sulphates; Turbidity; Water Temperature; Zinc

100:UMT EVST Montana. State Department of Health and Environmental Sciences. 1976. Estimates of Primary Production and Periphyton Community Structure in the Yellowstone River (Laurel to Huntley, Montana). By D. A. Klarich.

Terms: Yellowstone River (43Q); Periphyton; Diatoms; Chlorophyll; Seasonal Variations; Suspended Sediment; Biochemical Oxygen Demand; Diversity; Productivity; Alkalinity; Coliforms; Dissolved Oxygen; Electrical Conductance; pH; Turbidity

101:WQB Montana. State Department of Health and Environmental Sciences. 1977. Saline Seep County Inventory.

Terms: Spatial Distribution; Irrigation; Saline Water; Seepage; Alkalinity; Aluminum; Bicarbonates; Calcium; Carbonates; Chlorides; Electrical Conductance; Fluorides; Hardness; Iron; Magnesium; Manganese; Nitrates; Nitrogen; Phosphorous; Potassium; Sodium; Sodium Absorption; Sulphates; Turbidity; Water Temperature

102:MSL Montana. State Department of Health and Environmental Sciences. 1977. Summary of the Final Work Plan for Statewide Section 208 Water Quality Management Planning.

Terms: Planning Tasks; Statewide Advisory System; Budget; Relationships to Other Programs.

Entry
Number

103:WQB Montana. State Department of Health and Environmental Sciences. 1977. Logan Creek Water Quality Study, Fiscal Year 1976 Report. Technical Report by G. Hughes.

Terms: Flathead River (76LJ); Streamflow; Suspended Solids; Water Color; Heavy Metals; Bed Load; Alkalinity; Bicarbonates; Calcium; Chlorides; Coliforms; Dissolved Oxygen; Magnesium; Mercury; Nitrogen; pH; Phosphorous; Potassium; Sodium; Sulphates; Turbidity; Water Temperature

104: WQB Montana. State Department of Health and Environmental Sciences. 1977. Summary and Conclusions of Waste Load Allocation Investigation of the Yellowstone River in the Vicinity of Billings, Montana. By R. W. Karp and Others.

Terms: Yellowstone River; Water Quality; Improvement in Time; Sediment; Phenols; Coliforms; Water Temperature

105:WQB Montana. State Department of Health and Environmental Sciences. Water Quality Data, Flathead Drainage Above Flathead Lake. By D. A. Nunnallee.

Terms: Flathead River; Chemical Oxygen Demand; Biological Oxygen Demand; Suspended Solids; Streamflow; Alkalinity; Ammonia; Arsenic; Bicarbonates; Cadmium; Calcium; Carbon; Carbonates; Chlorides; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Hardness; Iron; Lead; Magnesium; Mercury; Nitrates; pH; Phosphorous; Sodium; Sulphates; Turbidity; Water Temperature; Zinc

106:UMT Montana. State Department of Natural Resources and Conservations. 1973. The Madison River, A Resource Review.

Terms: Madison River (41F); Streamflow; Suspended Solids; Cations; Anions; Biochemical Oxygen Demand; Water Color; Coliforms; Dissolved Oxygen; Dissolved Solids; pH; Turbidity; Water Temperature

107:NRC Montana. State Department of Natural Resources and Conservation. 1975. Yellowstone River Basin, Water Resources Situation Report, 1975.

Terms: Yellowstone River; Water Quality; Groundwater Quality; Streamflow; Dissolved Solids

108:MSL Montana. State Department of Natural Resources and Conservation and Pacific Northwest River Basins Commission. 1976. The Flathead River Basin Level B Study of Water and Related Lands. Pacific Northwest River Basin Commission.

Terms: Flathead River; Streamflow; Groundwater; Water Quality.

Notes: Brief and General Statements.

Entry Number

109:MSL Montana. State Department of Natural Resources and Conservation. 1977. The Future of the Yellowstone River...?

Terms: Yellowstone River; Streamflow; Groundwater; Dissolved Solids

110:MSL Montana. State Department of Natural Resources and Conservation. 1977. Yellowstone River Basin, Draft Addendum; Environmental Impact Statement for Water Reservation Applications.

Terms: Yellowstone River; Streamflow; Water Quality; Salinity; Dissolved Solids

111:MSU Montana. State Department of Natural Resources and Conservation. 1977. Which Way?--The Story of Yellowstone Water.

Terms: Yellowstone River; Water Quality; Potential Changes; Dissolved Solids

112:MSL Montana. State Department of Natural Resources and Conservation. 1977. State Water Conservation Projects, March 1977.

Terms: Water Storage; Irrigation Canals

113:UMT Montana. State Department of Natural Resources and Conservation. 1977. Supplemental Water for Milk River. By M. McElwain and W. Siler.

Terms: Milk River; Streamflow; Groundwater; Seepage; Salinity; Diversion; Water Supply; Water Storage

114:NRC Montana. State Department of Natural Resources and Conservation. 1977. Draft Environmental Impact Statement on First Continental Corporation Water Right Application.

Terms: Marias River (41M); Streamflow; Stream Depletion; Saline Water. Streamflow Depletion

Entry
Number

115:UMT Montana. State Department of Natural Resources and Conservation. 1977. Upper Flathead River Basin Study.

Terms: Flathead River; Streamflow; Groundwater; Aquatic Animals; Suspended Solids; Water Color; Chemical Oxygen Demand; Biochemical Oxygen Demand; Alkalinity; Aluminum; Ammonia; Arsenic; Barium; Beryllium; Bicarbonates; Boron; Cadmium; Calcium; Carbon; Chlorides; Chromium; Cobalt; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Magnesium; Manganese; Mercury; Molydenum; Nickel; Nitrates; pH; Phosphorous; Potassium; Selenium; Silica; Silver; Sodium; Strontium Sulphates; Turbidity; Vanadium; Water Temperature; Zinc

116:UMT EVST Montana. State Department of State Lands. 1975. Addendum to Environmental Impact Statement - Administrative Action - Proposed Approval of an Amendment to a Strip Mining Permit for the Continuation of Decker Coal Company's West Decker Mine Near Decker, Montana.

Terms: Tongue River (42B); Streamflow; Calcium; Electrical Conductance; Magnesium; Sodium; Sodium Absorption

117:UMT EVST Montana. State Department of State Lands. 1975. Investigations of Salinity in Hydrological Systems in Montana. FLY 75 Saline-Alkali Program Final Reports. State Department of Health and Environmental Sciences. By J. Kaiser, P. Gorman, and M. K. Botz.

Terms: Saline Water; Groundwater; Seepage; Streamflow; Suspended Load; Spatial Distribution; Bicarbonates Calcium; Carbonates; Chlorides; Dissolved Solids; Electrical Conductance; Magnesium; Nitrates; pH; Potassium; Sodium; Sodium Absorption; Sulphates

Notes: Also listed under: Montana. State Department of Health and Environmental Sciences. 1975.

118:UMT Montana. State Department of State Lands. 1975. Areas Affected by Irrigation Salinity--1974.

Terms: Spatial Distribution; Saline Water; Map

Entry
Number

119:UMT Montana. State Department of State Lands. 1975. Areas Affected by Saline Seeps--1974.

Terms. Spatial Distribution; Saline Water; Seepage; Map

120:UMT EVST Montana. State Department of State Lands. 1975. Environmental Impact Statement Concerning the Issuance of a Mining Permit to the Anaconda Company of Butte, Montana.

Terms: Clark Fork River (76G); Water Pollution Sources; Mines; Groundwater; Arsenic; Cadmium; Coliforms; Copper; Electrical Conductance; Hardness; Iron; Lead; Manganese; pH; Sulphates; Zinc

121:UMT EVST Montana. State Department of State Lands. 1976. Final Environmental Impact Statement for the Proposed Expansion of Western Energy Company's Rosebud Mine into Area B.

Terms: Armells Creek; Yellowstone River (42KJ); Streamflow; Biochemical Oxygen Demand; Suspended Solids; Groundwater; Alkalinity; Arsenic; Biocarbonates; Cadmium; Calcium; Carbonates; Chlorides; Chromium; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Magnesium; Manganese; Mercury; Nitrates; pH; Phosphorous; Potassium; Sodium; Sodium Absorption; Sulphates; Turbidity; Water Temperature; Zinc

122:UMT EVST Montana. State Department of State Lands and U. S. Geological Survey. 1976. Proposed Plan of Mining and Reclamation; East Decker and North Extension Mines, Decker Coal Company, Big Horn County, Montana. Draft. Environmental Impact Statement. 2 Vols.

Terms: Tongue River Reservoir; Tongue River (42B); Groundwater; Aquifers; Water Level; Springs;Streamflow; Erosion; Bicarbonates; Calcium; Chlorides; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Magnesium; Nitrates; pH; Sodium; Sodium Absorption; Sulphates; Water Temperature

Notes: Contains Water Quality Information Not Included in the Final Environmental Impact Statement.

Entry
Number

123:UMT EVST Montana. State Department of State Lands. 1977. Draft Environmental Impact Statement for the Proposed Expansion of Westmoreland Resources, Inc. Absaloka Mine into Section 36, T. In., R. 37E.

Terms: Sarpy Creek; Yellowstone River (42KJ); Groundwater; Permeability; Suspended Solids; Piezometric Levels; Streamflow; Alkalinity; Dissolved Solids; Fluorides; Iron; pH;Sulphates; Turbidity

124:UMT EVST Montana. State Department of State Lands and U. S. Geological Survey. 1977. Proposed Plan of Mining and Reclamation; East Decker and North Extension Mines, Decker Coal Company, Big Horn County, Montana. Final Environmental Impact Statement. 2 Vols.

Terms: Tongue River Reservoir; Tongue River (42B); Groundwater; Aquifers; Water Level; Springs; Streamflow; Erosion; Electrical Conductance; pH; Water Temperature

125:UMT EVST Montana. State Department of State Lands. 1977. Final Environmental Impact Statement for the Proposed Expansion of Western Energy Company's Rosebud Mine into Areas A and E. 2 Vols.

Terms: Armells Creek; Yellowstone River (42KJ); Streamflow; Biochemical Oxygen Demand; Suspended Solids; Groundwater; Springs; Alkalinity; Arsenic; Bicarbonates; Cadmium; Calcium; Carbonates; Chlorides; Chromium; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Magnesium; Manganese; Mercury; Nitrates; pH; Phosphorous; Potassium; Sodium; Sodium Absorption; Sulphates; Turbidity; Water Temperature; Zinc

126:MSU Montana. Montana State University, Department of Biology. 1974. Effect of Removal of Wastewater Treatment Plant Effluent from the Madison River, Yellowstone National Park. By D. A. Klarich and J. C. Wright.

Terms: Madison River (41F); Waste Water Treatment

Entry Number

127:WQB Montana. University (Bozeman), Department of Biology. 1977. Limnology of the Tongue River Reservoir, Existing and Potential Impact on Coal Strip Mining. Fourth Progress Report. Edited by R. W. Gregory.

Terms: Tongue River (42B); Water Quality; Nutrients; Ions; Algae; Reproduction; Heavy Metals; Sediment; Limnology; Coal Mines

128:MSU Montana. University (Bozeman), Department of Microbiology. 1974. Gallatin Basin Waste Allocation Study. Report to Montana State Water Quality Bureau. By D. G. Stuart and Others.

Terms: Gallatin River (41H); Groundwater; Water Quality; Temporal Change; Water Pollution Sources; Streamflow; Streptococcus; Waste Water Treatment; Biochemical Oxygen Demand; Suspended Solids; Water Management; Ammonia; Coliforms; Nitrates; Phosphorous

129:UMT EVST Montana. University (Bozeman), Fisheries Bioassay Laboratory. 1974. Water Analysis of the East Gallatin River (Gallatin County), Montana, 1973. Technical Report 74-2 by R. C. Russo and R. V. Thurston.

Terms: Gallatin River (41H); Sewage Treatment Plant; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Copper; Dissolved Oxygen; Electrical Conductance; Fluorides; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature; Zinc

130:UMT EVST Montana. University (Bozeman), Fisheries Bioassay Laboratory. 1974. Water Analysis of Bridger Creek (Gallatin County), Montana, 1973. Report 74-3, by R. C. Russo and R. V. Thurston.

Terms: Bridger Creek; Gallatin River (41H); Runoff; Domestic Wastes; Seepage; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Dissolved Oxygen; Electrical Conductance; Fluorides; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature; Zinc

Entry
Number

131:MSU Montana. University (Bozeman), Fisheries Bioassay Laboratory. 1974. Macroinvertebrate Distribution in the East Gallatin River, Montana. Technical Report 74-4 by R. J. Luedtke, D. M Gillespie, and R. V. Thurston.

Terms: Gallatin River (41H); Invertebrates; Benthos; Diversity; Municipal Wastes; Diptera; Mayflies; Oligochaetes; Stoneflies; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Copper; Dissolved Oxygen; Electrical Conductance; Fluorides; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature

132:UMT EVST Montana. University (Bozeman), Fisheries Bioassay Laboratory. 1974. Water Analysis of the East Gallatin River (Gallatin County), Montana, 1974. Technical Report 75-1 by R. C. Russo and R. V. Thurston.

Terms: Gallatin River (41H); Sewage Treatment Plant; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Copper; Dissolved Oxygen; Electrical Conductance; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature; Zinc

133:UMT EVST Montana. University (Bozeman), Fisheries Bioassay Laboratory. 1975. Water Analysis of Bridger Creek (Gallatin County), Montana, 1974. Technical Report 75-2 by R. C. Russo and R. V. Thurston.

Terms: Bridger Creek; Gallatin River (41H); Runoff; Domestic Wastes; Seepage; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Dissolved Oxygen; Electrical Conductance; Fluorides; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature; Zinc

134:UMT EVST Montana. University (Bozeman), Fisheries Bioassay Laboratory and Natural Resource Ecology Laboratory, Colorado State University. 1976. Toxic Effects on the Aquatic Biota from Coal and Oil Shale Development: Progress Report--Year 1. Internal Project Report 9 by R. V. Thurston, R. K. Skogerboe, and R. C. Russo.

Terms: Southeastern Montana; Coal Mines; Mine Waste Water; Benthos; Invertebrates; Fish; Water Pollution; Toxic Chemicals; Bioassay; Bioindicators

Entry
Number

135:MSL Montana. University Joint Water Resources Research Center. 1974. Effects of Clear Cutting on Water Discharge and Nutrient Loss, Bitterroot National Forest, Montana. Report 52 by T. A. Bateridge.

Terms: Bitterroot River (76H); Streamflow; Calcium & Magnesium; Clear-Cutting; Nutrients; Chlorides; Electrical Conductance; Nitrates; Nitrogen; pH; Potassium; Water Temperature

136:UMT Montana. University Joint Water Resources Research Center. 1975. Plankton Micro-Fossils as Indicators of Paleotrophic Dynamism in Flathead Lake. Report 54 by D. S. Potter and J. F. Tibbs.

Terms: Flathead Lake; Flathead River (76LJ); Plankton; Rotifers; Copepods; Crustaceans; Sediment

137:MSL Montana. University Joint Water Resources Research Center. 1974. Heavy Mineral Concentration in Fish Tissue of the Upper Clark Fork River. Report 55 by W. P. VanMeter.

Terms: Clark Fork River (76G, 76GJ); Spectroscopy; Heavy Metals; Fish; Cadmium; Copper; Lead; Mercury; Zinc

138:MSL Montana. University Joint Water Resources Research Center. 1975. Effect of Suspended Silt on Dissolved Phosphorous Level in the Gallatin River: Completion Report. Report 56 by M. G. Klages and F. T. Adamson.

Terms: Gallatin River (41H); Suspended Solids; Clay Minerals; Bicarbonates; Calcium; Chlorides; Magnesium; Phosphorous; Potassium; Sodium; Sulphates

Entry
Number

139:MSL Montana. University Joint Water Resources Research Center. 1974. Cation Concentrations of Small Streams Draining Matched Forested and Clearcut Watersheds in Western Montana: Completion Report. Report 58 by G. T. Foggin and L. K. Forcier.

Terms: Western Montana; Streamflow; Calcareous and Non-Calcareous Watersheds; Ions; Clear-cutting; Calcium; Electrical Conductance; Magnesium; Potassium; Sodium

140:MSL Montana. University Joint Water Resources Research Center. 1974. Hydrogeochemical Investigation of Selected Watersheds in Southwestern Montana. Report 60 by M. Miller.

Terms: Southwestern Montana; Streamflow; Hydrogeology; Alkalinity; Aluminum; Bicarbonates; Cadmium; Calcium; Carbonates; Chlorides; Cobalt; Copper; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lithium; Magnesium; Manganese; Nickel; Nitrates; pH; Phosphorous; Potassium; Silica; Sodium; Strontium; Sulphates; Water Temperature; Zinc

141:UMT Montana. University Joint Water Resources Research Center. 1975. Comparative Ecology of Western Montana Streams: Completion Report. Report 62 by A. L. Sheldon.

Terms: Western Montana; Biological Models; Diversity; Dominance

142:UMT Montana. University Joint Water Resources Research Center. 1975. An Investigation of the Ecology and Water Quality of a Lake Outlet. Report 63 by M. W. Oswood and A. L. Sheldon.

Terms: Insects; Periphyton; Lakes; Alkalinity; Coliforms; Hardness; Nitrates; pH; Phosphorous; Owl Creek; Clearwater River (76F)

Entry Number

143:UMT Montana. University Joint Water Resources Research Center. 1975. Siltation Rates and Life Expectancies on Small Headwater Reservoirs in Montana. Report 65 by P. S. Marsh and R. Konizeski.

Terms: Sediment Yield; Sedimentation Rates; Soil; Geologic Control; Topography; Vegetation Effects

144:UMT Montana. University Joint Water Resources Research Center. 1975. Ground Water Seepage and Its Effects on Saline Soils, Completion Report. Report 66 by M. R. Miller.

Terms: Land Use; Glacial Deposits; Perched Water Table; Saline Water; Groundwater; Seepage; Aluminum; Bicarbonates; Cadmium; Calcium; Chlorides; Chromium; Cobalt; Copper; Dissolved Solids; Electrical Conductance; Iron; Lead; Lithium; Magnesium; Manganese; Nickel; Nitrates; pH; Potassium; Silver; Sodium; Strontium; Sulphates; Zinc

145:MSL Montana. University Joint Water Resources Research Center. 1975. Upper Yellowstone River Water Quality, August 1973-August 1974: Completion Report. Report 68 by R. V. Thurston; R. J. Luedtke, and R. C. Russo.

Terms: Yellowstone River; Invertebrates; Mayflies; Stoneflies; Caddisflies; Alkalinity; Ammonia; Cadmium; Calcium; Chlorides; Copper; Dissolved Oxygen; Electrical Conductance; Hardness; Iron; Nitrates; Nitrites; pH; Phosphorous; Water Temperature; Zinc

146:UMT Montana. University Joint Water Resources Research Center. 1975. Development of a Rapid and Simple Test for Bacterial Water Quality Utilizing Limulus Lysate. Report 69 by T. M. Evans and D. G. Stuart.

Terms: Laboratory Test; Water Analysis; Endotoxin Content; Bacteria; Limulus lysate; Coliforms

Entry Number

147:MSL Montana. University Joint Water Resources Research Center. 1975. Phenols in the Clark Fork River: Completion Report. Report 71 by R. E. Erickson, C. Bardwell, and J. Sosebee.

Terms: Clark Fork River; Industrial Wastes; Phenols; Gas Chromatography; Spectroscopy

148:UMT Montana. University Joint Water Resources Research Center. 1975. An In-Situ Study of the Nutrition of Lake Zooplankton Using Carbon 14 and Phosphorous 32, Flathead Lake, Montana. Report 72 by G. B. Voerman, A. R. Gaufin, and J. F. Tibbs.

Terms: Flathead River (76LJ); Ecology; Nutrients; Plankton; Radioisotopes

149:UMT Montana. University Joint Water Resources Research Center. 1976. Microbiology and Chemistry Studies of Watershed Quality Factors in a Watershed Used for Municipal Supply and Waste Disposal (Phase II). Report 74 by J. E. Schillinger and D. G. Stewart.

Terms: Gallatin River (41H); Bacteria; Bio-indicators; Land Use; Alkalinity; Ammonia; Calcium; Chlorides; Coliforms; Electrical Conductance; Hardness; Magnesium; Nitrates; pH; Phosphorous; Potassium; Sodium; Sulphates; Turbidity; Water Temperature

150:UMT Montana. University Joint Water Resources Research Center. 1976. Concentration of Heavy Metals in Sediments of a Hydroelectric Impoundment. Report 75 by A. K. Bailey and G. F. Weisel.

Terms: Clark Fork River (76G); Sedimentation; Toxic Waste Disposal; Heavy Metals; Impounded Waters; Copper; Iron; Manganese; Zinc

Entry
Number

151:UMT Montana. University Joint Water Resources Research Center. 1976. An Investigation into the Extent and Cause of Eutrophication in Georgetown Lake, Montana. Report 77 by J. C. Knight, P. J. Garrison, and J. C. Wright.

Terms: Georgetown Lake; Flint Creek (76GJ); Lake Eutrophication; Aluminum; Ammonia; Bicarbonates; Calcium; Carbon; Carbon Dioxide; Carbonates; Chlorides; Dissolved Oxygen; Electrical Conductance; Fluorides; Iron; Magnesium; Nitrates; Nitrites; Nitrogen; pH; Phosphorous; Potassium; Sodium; Sulphates; Water Temperature; Zinc

152:UMT Montana. University Joint Water Resources Research Center. 1976. Shallow Ground Water Salinization in Dryland-Farm Areas of Montana. Report 79 by G. R. Thompson and S. G. Custer.

Terms: Yellowstone River (43Q); Weathering; Groundwater; Saline Water; Seepage; Agriculture; Bicarbonates; Calcium; Chlorides; Electrical Conductance; Magnesium; Nitrogen; pH; Potassium; Sodium; Sulphates

153:MSL Montana. University Joint Water Resources Research Center. 1976. Changes in the Quality of Soil Water for Three Years Following Burning. Report 82 by N. Stark.

Terms: Nutrients; Losses; Forests; Fires; Calcium; Copper; Iron; Magnesium; Manganese; Nitrates; Potassium; Sodium; Zinc; Blackfoot River (76F)

154:MSL Montana. University Joint Water Resources Research Center. 1976. Aquatic Algae as a Diffuse Source of Bacterial Contaminations in Natural Waterways. Report 83 by G. A. McFeters and Others.

Terms: Algae; Extracellular Algal Products; Bioindicators; Reproduction; Water Pollution; Coliforms

Entry
Number

155:MSU Montana. University Joint Water Resources Research Center. 1976. Progress Report on a Water Quality Study of Placid Lake and Its Drainages, II. (Nov. 3, 1974 to Mar. 27, 1976.) By R. E. Juday and E. J. Keller.

Terms: Placid Lake; Blackfoot River (76F); Water Color; Algae; Calcium; Carbon; Dissolved Oxygen; Magnesium; Sulphates; Water Temperature

156:WQB Montana. University (Missoula) Biological Station. 1975. Distribution and Biotic Effects of Nutrients in Flathead Lake, Montana. Report by J. F. Tibbs, A. R. Gaufin, and J. A. Stanford.

Terms: Flathead Lake; Flathead River (76LJ); Calefaction; Plankton; Algae; Bioassay; Light Penetration; Lake; Nutrients; Alkalinity; Calcium; Carbon Dioxide; Copper; Dissolved Solids; Hardness; Iron; Magnesium; Manganese; Nitrates; pH; Phosphorous; Potassium; Silica; Turbidity; Zinc

157:WQB Northern Cheyenne Draft 208 Water Quality Report. 1977. Yellowstone-Tongue Areawide Planning Organization.

Terms: Yellowstone River; Community Wastewater Facilities; Biochemical Oxygen Demand; Suspended Solids; Streamflow; Ponds; Alkalinity; Bicarbonates; Calcium; Carbonates; Chlorides; Coliforms; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Magnesium; Nitrates; pH; Phosphorous; Potassium; Silica; Sodium; Sulphates; Water Temperature

158:UMT EVST Northern Great Plains Resources Program. 1974. Possible Development of Water from Madison Group and Associated Rock in Powder River Basin, Montana - Wyoming. By F. A. Swenson.

Terms: Powder River; Groundwater; Piezometric Levels; Dissolved Solids

Entry Number

159:UMT Northern Great Plains Resource Program. 1974. Water Work Group Report.

Terms: Missouri River; Streamflow; Dissolved Solids

160:UMT EVST Old West Regional Commission. 1975. A Study to Evaluate Potential Physical, Biological, and Water Use Impacts of Water Withdrawals and Water Development on the Middle and Lower Portions of the Yellowstone River Drainage in Montana. Annual Report.

Terms: Yellowstone River; Streamflow; Water Quality; Streamflow Depletion

Notes: Potential Changes in Streamflow Because of Withdrawals.

161:MSL U. S. Army Corps of Engineers. (Seattle District). 1975. Kootenai River Water Quality Investigations, Libby Dam Preimpoundment Study, 1967-1972. By T. J. H. Bonde and R. M. Bush.

Terms: Kootenai River; Streamflow; Suspended Load; Benthos; Water Color; Biochemical Oxygen Demand; Diptera; Stoneflies; Mayflies; Trichoptera; Odonata; Coleoptera; Megaloptera; Hemiptera; Aluminum; Ammonia; Arsenic; Beryllium; Bicarbonates; Boron; Cadmium; Calcium; Carbon; Carbon Dioxide; Chlorides; Chromium; Cobalt; Coliforms; Copper; Dissolved Oxygen; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Lithium; Magnesium; Manganese; Mercury; Molybdenum; Nickel; Nitrates; Nitrogen; pH; Phosphorous; Potassium; Selenium; Silica; Silver; Sodium; Strontium; Sulphates; Turbidity; Vanadium; Water Temperature; Zinc

162:MSL U. S. Department of Agriculture. 1974. Main Report for the Wind-Big Horn-Clarks Fork River Basin, Type IV Survey, U. S. D. A. Water and Related Land Resources Report.

Terms: Bighorn River; Clarks Fork River (43D); Water Supply; Sediment; Water Pollution; Water Quality Control; Groundwater

Entry Number

163:MSL U. S. Department of Agriculture. 1974. Montana Supplement to the Wind-Big Horn-Clarks Fork River Basin.

Terms: Bighorn River; Clarks Fork River (43D); Water Supply; Sediment; Water Pollution; Water Quality Control; Groundwater

164:UMT EVST U. S. Department of Interior. 1975. Potential Reclamation Evaluation, Otter Creek Study Site. EMRIA Report 1.

Terms: Tongue River (42C); Groundwater; Sediment Yield; Mines; Water Pollution; Streamflow; Biochemical Oxygen Demand; Alkalinity; Aluminum; Ammonia; Arsenic; Barium; Beryllium; Bicarbonates; Bismuth; Boron; Cadmium; Calcium; Carbon; Carbon Dioxide; Chromium; Cobalt; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Gallium; Germanium; Hardness; Iron; Lead; Lithium; Magnesium; Manganese; Mercury; Molybdenum; Nickel; Nitrogen; pH; Phosphorous; Potassium; Selenium; Silica; Silver; Sodium; Strontium; Sulphates; Tin; Titanium; Turbidity; Vanadium; Water Temperature; Zinc; Zirconium; Resource; Potential Reclamation

165:UMT EVST U. S. Department of Interior. 1977. Resource and Potential Reclamation Evaluation, Bear Creek Study Area - West Moorhead Coalfield. EMRIA Report 8.

Terms: Groundwater; Streamflow; Biochemical Oxygen Demand; Suspended Sediment; Soil Water; Alkalinity; Ammonia; Arsenic; Beryllium; Bicarbonates; Boron; Cadmium; Calcium; Carbon; Carbon Dioxide; Carbonates; Chlorides; Chromium; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Hydroxides; Iron; Lead;Lithium; Magnesium; Manganese; Mercury; Molybdenum; Nickel; Nitrates; Nitrogen; pH; Phosphorous; Potassium; Selenium; Silica; Sodium; Sodium Absorption; Sulphates; Turbidity; Water Temperature; Zirconium; Bear Creek; Tongue River (42C)

166:UMT EVST U. S. Department of Transportation, Federal Highway Administration and State of Montana Department of Highways. 1973. Final Environmental Impact Statement, Montana Interstate 15, Butte-Boulder.

Terms: Stream Channel Modifications

Notes: Possible Changes in Water Quality along Alternative Routes.

Entry
Number

167:UMT EVST U. S. Environmental Protection Agency. 1974. Land Use and Water Quality in the Flathead Drainage. By T. R. Seastedt and J. F. Tibbs

Terms: Flathead River; Water Quality; Groundwater; Sodium & Potassium; Land Use; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Solids; Fluorides; Hardness; Iron; Magnesium; Nitrates; Sulphates; Water Temperature

168:UMT U. S. Environmental Protection Agency. 1975. Ground-Water Pollution Problems in the Northwestern United States. Ecological Research Series EPA-660/3-75-018. By F. Van der Leeden, L. A. Cerillo, and D. W. Miller.

Terms: Ground Water; Water Pollution

169:UMT U. S. Environmental Protection Agency. 1976. Limnological Studies of Flathead Lake, Montana: A Status Report. EPA Ecological Research Series; EPA-600/3-76-039. By A. R. Gaufin, G. W. Prescott, and J. F. Tibbs.

Terms: Flathead Lake; Flathead River (76LJ); Lake; Limnology

170:UMT U. S. Environmental Protection Agency. 1977. Report on Canyon Ferry Reservoir, Broadwater and Lewis and Clark Counties, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 790.

Terms: Canyon Ferry Reservoir; Missouri River (41I); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Elements; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

Entry
Number

171:UMT U. S. Environmental Protection Agency. 1977. Report on Clark Canyon Reservoir, Beaverhead County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 791.

Terms: Clark Canyon Reservoir; Beaverhead River (41A); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Elements; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

172:UMT U. S. Environmental Protection Agency. 1977. Report on Flathead Lake, Flathead and Lake Counties, Montana. EPA Region VIII. National Eutrophication Survey Working Paper 792.

Terms: Flathead Lake; Flathead River; (76LJ); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

173:UMT U. S. Environmental Protection Agency. 1977. Report on Georgetown Lake, Deer Lodge and Granite Counties, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 793.

Terms: Flint Creek (76GJ); Georgetown Lake; Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

174:UMT U. S. Environmental Protection Agency. 1977. Report on Hebgen Lake, Gallatin County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 794.

Terms: Hebgen Lake; Madison River (41F); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

Entry
Number

175:UMT U. S. Environmental Protection Agency. 1977. Report on Koocanusa Reservoir, Lincoln County, Montana and British Columbia, EPA Region VIII. National Eutrophication Survey Working Paper 795.

Terms: Koocanusa Reservoir; Kootenai River (76D); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

176:UMT U. S. Environmental Protection Agency. 1977. Report on Mary Ronan Lake, Lake County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 796.

Terms: Mary Ronan Lake; Flathead River (76LJ): Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

177:UMT U. S. Environmental Protection Agency. 1977. Report on Lake McDonald, Flathead County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 797.

Terms: Lake McDonald; Middle Fork, Flathead River (76I); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

178:UMT U. S. Environmental Protection Agency. 1977. Report on Nelson Reservoir, Phillips County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 798.

Terms: Nelson Reservoir; Milk River (40J); Chlorophyll; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

Entry Number

179:UMT U. S. Environmental Protection Agency. 1977. Report on Seeley Lake, Missoula County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 799.

Terms: Seeley Lake; Clearwater River (76F); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

180:UMT U. S. Environmental Protection Agency. 1977. Report on Swan Lake, Lake County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 800.

Terms: Swan Lake, Swan River (76K); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

181:UMT U. S. Environmental Protection Agency. 1977. Report on Tally Lake, Flathead County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 801.

Terms: Tally Lake; Flathead River (76LJ); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

182:UMT U. S. Environmental Protection Agency. 1977. Report on Tiber Reservoir, Liberty and Toole Counties, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 802.

Terms: Tiber Reservoir; Marias River (41P); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

Entry
Number

183:UMT U. S. Environmental Protection Agency. 1977. Report on Tongue River Reservoir, Big Horn County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 803.

Terms: Tongue River Reservoir; Tongue River (42B); Chlorophyll; Algae; Water Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

184:UMT U. S. Environmental Protection Agency. 1977. Report on Whitefish Lake, Flathead County, Montana, EPA Region VIII. National Eutrophication Survey Working Paper 804.

Terms: Whitefish Lake; Flathead River (76LJ); Chlorophyll; Algae; Pollution Sources; Eutrophication; Deficient Nutrients; Lake Morphology; Tributaries; Alkalinity; Ammonia; Dissolved Oxygen; Electrical Conductance; Nitrogen; pH; Phosphorous; Water Temperature

185:USFS U. S. Forest Service. 1974. Environmental Statement, Multiple Use Plan, Skalkaho - Gird and Sleeping Child Planning Units.

Terms: Bitterroot River (76H); Streamflow; Alkalinity; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Hydroxides; Iron; Magnesium; Manganese; Nitrates; pH; Potassium; Silica; Sodium; Sulphates; Turbidity; Water Temperature

186:USFS U. S. Forest Service. 1974. Multiple Use Plan--Cube Iron-Silcox Planning Unit, Thompson Falls Ranger District, Lolo National Forest.

Terms: Clark Fork River (76N); Streamflow; Dissolved Solids; Turbidity; Water Temperature

Entry Number

187:USFS U. S. Forest Service. 1974. Environmental Statement, Multiple Use Plan--Gold Creek Planning Unit, Missoula Ranger District, Lolo National Forest.

Terms: Blackfoot River (76F); Dissolved Solids; pH; Water Temperature

188:USFS U. S. Forest Service. 1974. Environmental Statement, Multiple Use Plan--Upper West Fork Planning Unit.

Terms: Bitterroot River (76H); Suspended Load; Streamflow; Calcium; Chlorides; Dissolved Solids; Electrical Conductance; Hardness; Iron; Magnesium; Manganese; Nitrates; pH; Phosphorous; Potassium; Silica; Sodium; Sodium Absorption; Sulphates; Turbidity; Water Temperature

189:USFS U. S. Forest Service. 1975. Environmental Statement, Land Use Plan--Hebgen Lake Planning Unit, Hebgen Lake Ranger District, Gallatin National Forest.

Terms: Gallatin River (41H); Alkalinity; Bicarbonates; Calcium; Chlorides; Fluorides; Magnesium; Nitrates; Phosphorous; Potassium; Silica; Sodium; Sulphates

190:USFS U. S. Forest Service. 1975. Clearcutting and Burning Slash Alter Quality of Stream Water in Northern Idaho. Intermountain Forest and Range Experiment Station Research Paper INT-168 by G. G. Snyder, H. F. Haupt, and G. H. Belt, Jr.

Terms: Idaho; Clearcutting; Fires; Bicarbonates; Calcium; Chlorides; Electrical Conductance; Magnesium; Nitrates; pH; Potassium; Sodium; Sulphates; Turbidity

191:USFS U. S. Forest Service. 1975. Background Reports for the Rolling Prairie Planning Unit, Little Missouri National Grasslands, Custer National Forest. Report 5. Climate and Hydrology.

Terms: North Dakota; Water Yield; Sediment Yield; Bicarbonates; pH; Sodium; Sulphates

192:USFS U. S. Forest Service. 1975. Environmental Statement, Multiple Use Plan--Camp Tolan Planning Unit.

Terms: Bitterroot River (76H); Alkalinity; Dissolved Oxygen; Electrical Conductance; Hardness; pH; Turbidity; Water Temperature

Entry Number

193:UMT U. S. Forest Service (Northern Region). 1975. Flathead River, Wild and Scenic River Study Report.

Terms: Flathead River

Notes: General Water Quality Comments

194:MST U. S. Forest Service. 1975. Rock Creek Fishery Habitat and Water Quality Study. Water Quality Summary Report 2. by G. N. Haugen.

Terms: Rock Creek (76E); Biochemical Oxygen Demand; Chemical Oxygen Demand; Suspended Sediments; Tannin; Lignin; Alkalinity; Ammonia; Chlorides; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Hardness; Manganese; Nitrates; Nitrites; pH; Phosphorous; Silver; Turbidity; Water Temperature

195:USFS U. S. Forest Service. 1976. Environmental Statement, Multiple Use Plan--Big Hole Planning Unit, Plains and Thompson Falls Ranger Districts, Lolo National Forest (Draft).

Terms: Clark Fork River (76N); Dissolved Solids; Turbidity; Water Temperature

196:USFS U. S. Forest Service. 1976. Environmental Statement--Land Use Plan--Bitterroot South Planning Unit.

Terms: Bitterroot River (76H); Suspended Solids; Streamflow; Alkalinity; Bicarbonates; Calcium; Carbon Dioxide; Carbonates; Chlorides; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Hydroxides; Iron; Magnesium; Manganese; Nitrates; pH; Potassium; Silica; Sodium; Sulphates; Turbidity; Water Temperature

Entry Number

197:USFS U. S. Forest Service. 1976. Environmental Statement, Land Use Plan--Lower West Fork Planning Unit.

Terms: Bitterroot River (76H); Streamflow; Alkalinity; Bicarbonates; Calcium; Chlorides; Electrical Conductance; Hardness; Iron; Magnesium; Manganese; Nitrates; pH; Phosphorous; Potassium; Silica; Sodium; Sulphates; Turbidity; Water Temperature

198:USFS U. S. Forest Service. 1976. Environmental Statement, Land Management Plan--Warm Springs-Medicine Tree Planning Unit.

Terms: Bitterroot River (76H); Alkalinity; Electrical Conductance; Hardness; pH; Turbidity; Water Temperature

199:USFS U. S. Forest Service. 1977. Flathead Wild and Scenic River Proposal, Environmental Statement, Final.

Terms: Flathead River

Notes: General Water Quality Comments

200:USFS U. S. Forest Service. 1977. Environmental Statement, Multiple Use Plan--Upper Rock Creek Planning Unit.

Terms: Rock Creek (76E); Water Yield; Alkalinity; Dissolved Oxygen; pH; Turbidity; Water Temperature

201:USGS U. S. Geological Survey. 1973. Inflow, Outflow, and Water Quality of Mission Lake, North Central Montana. Open File Report by L. R. Frost, Jr.

Terms: Mission Lake; Water Balance; Dissolved Solids; Spring Creek; Cut Bank Creek (41L)

202:UMT U. S. Geological Survey. 1974 to Present. Water Resources Data for Montana, Part 1. Surface Water Records.

Terms: Streamflow Records; Peak Runoff; Low Flow; Watershed Areas

Entry
Number

203:UMT U. S. Geological Survey. 1974 to Present. Water Resources Data for Montana, Part 2. Water Quality Records.

Terms: Suspended Sediments; Biochemical Oxygen Demand; Chlorophyll; Pesticides; PCB; Aluminum; Ammonia; Arsenic; Barium; Beryllium; Bicarbonates; Boron; Bromine; Cadmium; Calcium; Carbon Dioxide; Carbonates; Chlorides; Chromium; Cobalt; Coliforms; Copper; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Magnesium; Manganese; Molybdenum; Nitrogen; Phosphorous; Potassium; Silica; Sodium; Sodium Absorption; Sulphates; Water Temperature; Zinc

Notes: Many Other Analytical Data Are Included.

204:UMT EVST U. S. Geological Survey. 1974. Plan of Mining and Reclamation Big Sky Mine, Peabody Coal Company-Coal Lease-M-15965 Colstrip, Montana. FES-74-12. 2 Vols.

Terms: Armells Creek; Yellowstone River (42KJ); Mines; Groundwater; Water Wells; Springs; Streamflow; Suspended Solids; Water Color; Chemical Oxygen Demand; Erosion; Impacts on Water Quality; Piezometric Levels; Alkalinity; Aluminum; Ammonia; Arsenic; Bicarbonates; Bromine; Cadmium; Calcium; Carbonates; Chlorides; Chromium; Copper; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Iron; Lead; Magnesium; Manganese; Mercury; Nickel; Nitrates; pH; Potassium; Selenium; Silica; Sodium; Sodium Absorption; Sulphates; Turbidity; Water Temperature; Zinc

205:USGS U. S. Geological Survey. 1974. Shallow Ground Water in Selected Areas in the Fort Union Coal Region; by Ground Water Subgroup, Water Work Group, Northern Great Plains: Resources Program. Open-File Report 74-371.

Terms: Eastern Montana; Groundwater; Piezometric Levels; Alkalies; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Solids; Fluorides; Iron; Magnesium; Manganese; Nitrates; Potassium; Silica; Sodium; Sulphates

206:UMT U. S. Geological Survey. 1974. Map Showing Streamflow Volumes in Northeastern Wyoming and Southeastern Montana. Miscellaneous Investigation I-847-B by D. G. Frickel and L. M. Shown.

Terms: Southeastern Montana; Spatial Distribution; Streamflow; Map

Notes: Range of Streamflow Volumes.

Entry Number

207:USGS U. S. Geological Survey. 1974. Evaluation and Simulation of Chemical-Quality Data for Five Montana Sampling Stations. Open-File Report by L. R. Frost, Jr.

Terms: Regression Analysis; Ions; Bicarbonates; Calcium; Chlorides; Electrical Conductance; Magnesium; Potassium; Silica; Sodium; Sulphates

Notes: Concentrations of Ions Related by Regression Analysis to Electrical Conductance.

208:UMT U. S. Geological Survey. 1975. The Channels and Waters of the Upper Salmon River Area, Idaho. Professional Paper 870-A by W. W. Emmett.

Terms: Idaho; Streamflow; Suspended Sediment; Bed Load; Alkalinity; Bicarbonates; Calcium; Chlorides; Coliforms; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Hardness; Magnesium; Nitrogen; pH; Phosphorous; Potassium; Silica; Sodium; Sulphates; Turbidity; Water Temperature

209:USGS U. S. Geological Survey. 1975. Plan of Study of the Hydrology of the Madison Limestone and Associated Rocks in Parts of Montana, Nebraska, North Dakota, South Dakota, and Wyoming, by U. S. Geological Survey. Open-File Report 75-631.

Terms: Eastern Montana; Well Yield; Hydrogeology

210:UMT U. S. Geological Survey. 1975. Water Resources Investigation of the U. S. Geological Survey in the Northern Great Plains Coal Region of Eastern Montana, 1974-75. Open-File Report.

Terms: Eastern Montana; Programs; Discharge Measurement; Water Quality Measurement; Hydrogeology; Stream Gaging Stations

Entry
Number

211:USGS U. S. Geological Survey. 1976. Results of Phytoplankton Sampling at National Stream Quality Accounting Network Stations in Montana--1975 Water Year. Open-File Report 76-219 by J. R. Knapton and B. M. Bochy.

Terms: Plankton; Algae; Cyanophyta

212:UMT U. S. Geological Survey. 1976. Preliminary Digital Model of Ground Water Flow in the Madison Group, Powder River Basin and Adjacent Areas, Wyoming, Montana, South Dakota, North Dakota, and Nebraska. Water Resources Investigations Report WRI 63-75 by L. F. Konikow.

Terms: Powder River; Hydrogeology; Groundwater; Piezometric Levels; Computer Model; Water Temperature

213:UMT U. S. Geological Survey. 1976. Water in Carbonate Rocks of the Madison Group in Southeastern Montana--A Preliminary Evaluation. Water Supply Paper 2043 by W. A. Miller.

Terms: Southeastern Montana; Hydrogeology; Piezometric Levels; Groundwater Recharge; Groundwater Depletion; Calcium & Magnesium & Sulphate; Sodium & Potassium & Chloride; Salts; Dissolved Solids

214:UMT EVST U. S. Geological Survey. 1976. Proposed 20-Year Plan of Mining and Reclamation, Westmoreland Resources Tract III, Crow Indian Ceded Area, Montana.

Terms: Yellowstone River (42KJ); Streamflow; Groundwater; Water Color; Suspended Solids; Biochemical Oxygen Demand; Radioisotopes; Biological Oxygen Demand; Chemical Oxygen Demand; Alkalinity; Aluminum; Ammonia; Arsenic; Barium; Beryllium; Bicarbonates; Bismuth; Boron; Cadmium; Calcium; Carbon Dioxide; Carbonates; Chlorides; Chromium; Cobalt; Coliforms; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Gallium; Germanium; Hardness; Hydroxides; Iron; Lead; Lithium; Magnesium; Manganese; Mercury; Molybdenum; Nickel; Nitrates; Nitrites; Nitrogen; pH; Phosphorous; Potassium; Radon; Selenium; Silica; Silver; Sodium; Sodium Absorption; Strontium; Sulphates; Tin; Titanium; Turbidity; Uranium; Vanadium; Water Temperature; Zinc; Zirconium

Entry Number

215:UMT U. S. Geological Survey. 1976. Water Resources Investigations of the U. S. Geological Survey in the Northern Great Plains Coal Region of Eastern Montana, 1975-76. Open-File Report.

Terms: Eastern Montana; Programs; Discharge Measurement; Water Quality Measurement; Stream Gaging Stations

216:USGS U. S. Geological Survey. 1976. Ground-Water Levels and Chemical Quality of Groundwater in Lincoln, Montana. Open-File Map 76-333 by K. R. Wilke.

Terms: Blackfoot River (76F); Groundwater; Piezometric Levels; Map; Ammonia; Bicarbonates; Calcium; Carbonates; Chlorides; Fluorides; Magnesium; Nitrogen; Phosphorous; Potassium; Sodium; Sulphates

217:USGS U. S. Geological Survey. 1976. A Method for Estimating Magnitude and Frequency of Floods in Montana. Open-File Report 75-650 by M. V. Johnson and R. J. Omang.

Terms: Streamflow; Statistical Analysis

218:USGS U. S. Geological Survey. 1976. Water-Resources Data for Deep Aquifers of Eastern Montana. Water Resources Investigation Open-File Report 76-40 by W. B. Hopkins.

Terms: Eastern Montana; Hydrogeology; Groundwater; Resistivity; Specific Gravity; Bicarbonates; Calcium; Carbonates; Chlorides; Dissolved Solids; Magnesium; pH; Potassium; Sulphates

219:USGS U. S. Geological Survey. 1977. Annual Peak Discharges from Small Drainage Areas in Montana Through September, 1976. Open-File Report 77-112 by M. V. Johnson, R. J. Omang, and J. A. Hull.

Terms: Streamflow; Peak Runoff; Watershed Areas

Entry Number

220:USGS U. S. Geological Survey. 1977. Water Quality of Selected Streams in the Coal Area of Southeastern Montana. Water Resources Investigations 77-80, by J. R. Knapton and P. W. McKinley.

Terms: Southeastern Montana; Streamflow; Suspended Sediment; Biochemical Oxygen Demand; Aluminum; Ammonia; Arsenic; Beryllium; Bicarbonates; Boron; Cadmium; Calcium; Carbonates; Chlorides; Chromium; Copper; Dissolved Oxygen; Dissolved Solids; Electrical Conductance; Fluorides; Iron; Lead; Lithium; Magnesium; Manganese; Mercury; Molybdenum; Nickel; Nitrogen; pH; Phosphorous; Potassium; Selenium; Silica; Sodium; Sodium Absorption; Sulphates; Turbidity; Vanadium; Water Temperature; Zinc

221:USGS U. S. Geological Survey (Denver). 1977. Report on Preliminary Data for Madison Limestone Test Well No. 1, NE 1/4 SE 1/4 Sec. 15, T57N., R.65W., Crook County, Wyoming. Open-File Report 77-164 by R. K. Blankennagel and Others.

Terms: Wyoming; Water Quality; Hydrogeology; Alkalinity; Aluminum; Ammonia; Antimony; Arsenic; Barium; Bicarbonates; Boron; Bromine; Cadmium; Calcium; Carbonates; Chlorides; Chromium; Copper; Fluorides; Hardness; Iron; Lead; Lithium; Magnesium; Manganese; Molybdenum; Nitrates; Nitrogen; pH; Phosphorous; Selenium; Silica; Sodium; Sodium Absorption; Strontium; Sulphates; Turbidity; Zinc

222:UMT U. S. Missouri River Basin Commission. 1975. Yellowstone River Basin and Adjacent Coal Area, Level B Study, Montana, Wyoming, North Dakota: 1975 Surface Water Quality Conditions Based on 1975 Level Depleted Flows (Manuscript).

Terms: Yellowstone River; Streamflow Depletion; Dissolved Solids

223:UMT EVST U. S. Soil Conservation Service (Bozeman). 1974. Hydrology of Jefferson River Drainage Based on Mountain Precipitation as Determined from Snow Survey Data and Precipitation Gages. By P. E. Farnes and B. A. Shafer.

Terms: Jefferson River; Streamflow; Peak Runoff; Snow Cover

Entry
Number

224:MSU U. S. Soil Conservation Service (Bozeman). 1975. Suspended Sediment Measurements, Montana; Preliminary Report.

Terms: Streamflow; Suspended Sediment; Water Temperature

225:UMT EVST U. S. Soil Conservation Service (Bozeman). 1976. Hydrology of Madison River Drainage Basin Based on Mountain Precipitation as Determined from Snow Survey Data and Precipitation Gages.

Terms: Madison River (41F); Streamflow; Peak Runoff; Snow Cover

226:UMT EVST Yellowstone-Tongue Areawide Planning Organization. 1977? Municipal Point Source (Draft).

Terms: Water Pollution Sources; Waste Water Treatment; Municipal Wastes; Southeastern Montana

227:UMT EVST Yellowstone-Tongue Areawide Planning Organization. 1977? Hydrographic Modifications Report (Draft).

Terms: Stream Erosion; Southeastern Montana

228:UMT EVST Yellowstone-Tongue Areawide Planning Organization. 1977? Private and Industrial Point Sources.

Terms: Waste Water; Water Pollution Sources; Southeastern Montana

229:UMT EVST Yellowstone-Tongue Areawide Planning Organization. 1977? Agricultural Report (Draft).

Terms: Sediment Yield; Irrigation Canals; Water Quality; Suspended Sediments; Water Pollution Sources; Agriculture; Electrical Conductance; Nitrates; Phosphorous; Sodium Absorption; Southeastern Montana

Entry
Number

230:UMT EVST Yellowstone-Tongue Areawide Planning Organization. 1977? Potential for Ground Water Contamination from Petroleum and Uranium Exploration and Development Activities: Assessment and Recommendations, Final Report (Draft).

Terms: Groundwater Quality; Chlorides; Dissolved Solids; Fluorides; Hardness; Iron; Manganese; Nitrates; pH; Silica; Sodium; Sulphates; Southeastern Montana

231:UMT EVST Yellowstone-Tongue Areawide Planning Organization. 1977? Hydrographic Modifications Report.

Terms: Stream Erosion; Sediment Production; Southeastern Montana

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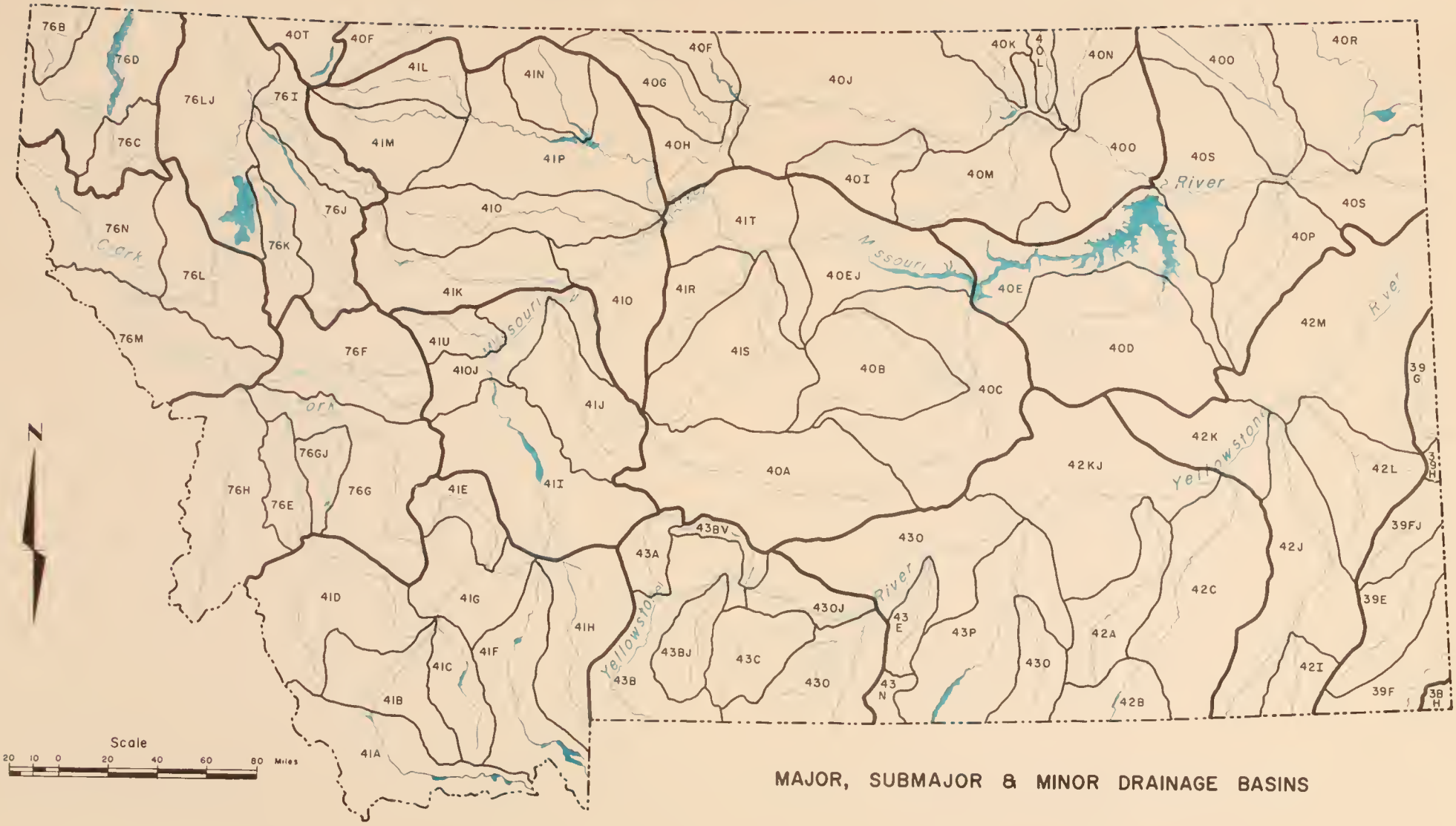


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